

COST *and* MANAGEMENT

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CONTENTS

	Page
COST ACCOUNTING PRACTICE IN CANADA. W. A. McKague	66
NOTICE OF ANNUAL MEETING.....	66
CONSIDERATIONS ON THE COST OF MONEY.....	72
OFFICE MACHINERY IN A BANK. By Angus Macdonald.....	81
OFFICE CONDITIONS AS AN AID TO EFFICIENCY. By E. L. B. Hamlin.....	83
INTEREST AS AN ITEM IN COSTS.....	86
THE TREND OF PRODUCTION COSTS.....	90
SOCIETY'S LIBRARY ENLARGED.....	90
CHAPTER NOTES	91
COST LITERATURE.....	96
NEW BOOKS	96

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COST AND MANAGEMENT

Cost Accounting Practice in Canada

By W. A. McKAGUE,

General Secretary, The Canadian Society of Cost Accountants

THE Canadian Society of Cost Accountants has completed a study of present practice in costing in Canada. This is the first attempt of the kind in Canada, and possibly the most comprehensive to be made in any country.

Every manufacturer, in fact every producer, is vitally concerned with knowing the cost of everything he makes. It is only through such knowledge that he can determine the source of his profits and losses, and intelligently fix selling prices. Thus the cost accounts when sufficiently complete and accurate, furnish a clear analysis of the result of operations in different lines or processes; and they provide a basis for future policy, whereby profits may be extended and losses reduced.

NOTICE OF ANNUAL MEETING

The annual meeting of the Canadian Society of Cost Accountants will be held in the Windsor Hotel, Montreal, on Thursday, April 10, at 4 p.m.

G. C. Leroux,
Honorary Secretary.

W. A. McKague,
General Secretary.

If a firm makes a single product, of course all its profits and losses come from the one source, and the net result is due to that one product. Even here, however, costs probably vary to some extent from month to month, and selling prices may vary also. A statement of cost, revised from month to month or from week to week, will almost certainly disclose a varying margin of profit, and the financial results of the business may be improved by adapting the operations to this varying margin.

In very few firms, however, is the business quite so simple. The great majority are making a number of products; some run into thousands, with a great variety in importance and volume. For proper conduct of the business, it is essential that receipts and expenditures be analyzed so as to show the revenue credited, and the expenses charged, to each product. The results at once reveal the sources of profits and losses. By similar methods it is usually possible to estimate profits or losses on a certain product for different volumes of business. Some items in cost do not increase in proportion to the units made, so that a loss may be turned into a profit if sufficient volume is attained.

COST ACCOUNTING PRACTICE IN CANADA

Many companies, again, carry materials through several stages of manufacture. Costing at each convenient stage should reveal the efficiency of the various departments. If such goods can be purchased elsewhere, at any stage in manufacture, it is then possible to see what departments, if any, might be dropped with advantage, and what departments are most successful.

The Society has obtained from 158 manufacturing concerns in Canada, a brief summary of their costing methods. These firms represent the larger volumes and more advanced methods, but they are not by any means the 150 biggest concerns in Canada, and there are probably many hundreds operating on a similar scale.

Just about 100 of these are engaged wholly or partly, on jobs or contracts with more or less distinct costs for each. An example would be a foundry making grey iron castings in quantities for manufacturers of machinery or farm implements. Sixty-two per cent. of these use a "job order and cost" system, establishing profits on each individual job or contract. Of course an advance estimate must be made before a price for the job is quoted. But it is only on completion of the job that all figures are extended and the profit or loss thus ascertained.

Nearly half of these firms, however, also have "standard" costs to supplement their job system, or to take its place entirely. Standard costing is a method of predetermining costs, and in some plants is so successful that the figures accumulated on this basis come within one or two per cent. of the actual expenditures of the year. It is closely linked with budgeting which means, in short, a systematic planning of the entire operations. Standard costing applies the same principle in detail to each item of business received during the year. Standard costing has attained its highest development in business where the same products are regularly being produced and sold, and a stock maintained, but the proportion of firms adopting the principle to jobs or contracts clearly indicates that it is of value to them.

Out of 112 firms engaged wholly or partly in producing regular lines of goods, 68 use a job cost system, the output taking the form of periodical jobs or lots. Though the cost of each lot is figured at the time, as if it were a distinct product, yet many of the items, such as overhead or sales expense for instance, may remain unchanged from one lot to another over a considerable period, so that costing is to some extent simplified. Well over half of these, however, use standard costs to supplement or in place of the other method. As already indicated, standard costing is more adaptable to this type of production.

One hundred of the firms have operations of a "process" character, where one finished product becomes the raw material of another department. Sixty-nine of these figure process costs, to ascertain the cost of the goods at each stage. Slightly less than half endeavour to figure the actual overhead in each case, while over half predetermine it. Over half of these again use standard costs.

Of the 158 firms reporting, representative of the larger manufacturing field in Canada, 70 per cent. have developed their own cost system. Five per cent. have adopted a cost system devised by a trade

COST AND MANAGEMENT

association or similar body, 11 per cent. of the cost systems were installed by the company's auditors, and 14 per cent. were installed by cost specialists or efficiency experts.

The replies, analyzed territorially, reveal a greater development of standard costing in Toronto and Montreal than in other sections. This does not necessarily mean that cost work is better done in these centres, but may be entirely due to differences in volume and in character of manufacturing.

Cost Accounting Methods in Canada

In December we addressed a questionnaire to 600 manufacturing firms in Canada, including those which are represented by members in our Society. The number of returns is 158, and from these it is possible to estimate the progress of cost work in Canada.

ACKNOWLEDGEMENT

ON behalf of the Canadian Society of Cost Accountants I wish to thank those of our members and others, who have made this summary possible by replying to our questionnaire. This is the first time that an attempt has been made to find out the condition of affairs regarding Cost Accounting in Canadian industry and, owing to the very satisfactory response, we have been able to produce results which, we believe, will be found most useful and interesting.

Other studies may be undertaken on a similar plan, as opportunities arise, and we hope that we may continue to have the co-operation of all in our work of helping forward the development of Canadian industry on sound financial lines.

R. R. THOMPSON,
President, Canadian Society of Cost Accountants.

The questionnaire was sent only to manufacturing firms, of sufficient size to warrant some systematic method of costing.

This is the first attempt of the kind made by our Society, and no doubt the first in Canada.

Of the 158 replies received, approximately 100 are from firms represented in the Society's membership, and about 50 from firms not so represented. As it is likely that the firms replying are those who have gone furthest in cost work, the replies cannot be treated as representative of the whole list of 600, nor of manufacturing in Canada. But the replies are representative of methods in the more advanced companies.

The questionnaire is printed herewith, with the replies totalled.

COST ACCOUNTING PRACTICE IN CANADA

Every reply did not contain an answer to every question, and only answers to each question are listed.

Questions 1, 2 and 3 were to a certain extent alternatives; that is, a firm working chiefly by jobs or contracts was intended to reply under question one, and those on steady production of one or more lines were intended to answer under questions 2 and 3. But some companies which produce under both conditions replied to all three.

A reply to a sub-question "a" was not always accompanied by a reply to "b" so that the number of replies to sub-questions are not the same. Thus there were 102 replies to 1 a, and 94 replies to 1 b; 112 replies to 2 a and 110 to 2 b; 107 replies to 3 a, 116 to 3 b, and 100 to 3 c. Question 4 brought the greatest number of definite answers, 138.

Replies Analyzed by Territory

The replies were sorted according to our Chapter territories, and a detailed summary on this plan is printed herewith, giving first the actual number of replies, and secondly the percentages; the latter makes comparison easier. It is obvious, however, that cost methods are governed in part by the size and character of the average plant in each section, and this must be kept in mind in making geographic comparison.

Detailed Study of Replies

Question 1—A total of 102 replies to this question indicate that number as concerned chiefly or partly with jobs or contracts with distinct costs for each. 63 of these use a job order and cost system and check against selling prices, establishing profits on each individual job or contract. 45 of them use standard costs as well as actual, while 49 do not. In other words, while well over half have a job cost system, nearly half supplement it by standard costs; a few reply on the latter alone.

A reference to the detailed analysis show higher percentages of job cost systems in Toronto and Montreal, a high percentage of standard costs in Toronto, and low percentages of standard costing in Winnipeg and Central Ontario.

Question 2—Of the 112 replies to this question, 68 state that a job cost system is used for goods regularly produced and capable of regular costing. A little over half use standards as well as actual costs. The proportions using job costs are highest in Toronto and Winnipeg, while the proportions supplementing this by standards, or relying on standards altogether, are highest in Toronto, Montreal and Winnipeg.

Question 3—This question, applicable to firms with production of a process character, and with goods moving through various departments, brought 116 replies. 74 of these use process costs. 53 of them figure the actual overhead, while with 63 it is predetermined. A little over half use standard costs as well as actual.

The proportions using process costs are highest in Toronto and Montreal. Montreal and Hamilton show the largest proportions figuring on the actual overhead, while Toronto, Winnipeg and Central Ontario lean towards predetermining it. Toronto, Montreal and Winnipeg lead in standard costing.

COST AND MANAGEMENT

Question 4—Replies to this question show that in the great majority of companies, in all sections, the cost system has been developed within the organization itself. Only 7 reported their cost system as adopted from or installed by a trade association, and this is mostly the Typothetae system for printers. The auditors were responsible in 15 instances, and cost specialists in 19 instances. Of course in practically every case the cost system has been adapted or modified by the company itself; the question was intended to ascertain to what extent those outside the regular staff of the company had taken some part, and the replies are summarized on this basis.

THE CANADIAN SOCIETY OF COST ACCOUNTANTS

To Canadian Manufacturers:

1. Does your Business consists chiefly of jobs or contracts with distinct costs for each? If so,
 - (a) Do you use a Job Order and Cost System and check against selling prices, establishing profits on each individual job or contract?
No—39. Yes—63.
 - (b) Do you use Standard Costs as well as Actual?
No—49. Yes—45.
2. Do you produce goods on which costs may be established regularly and related with selling prices to determine profits on such goods? If so,
 - (a) Do you use Job Cost System?
No—44. Yes—68.
 - (b) Do you use Standard as well as Actual Costs?
No—50. Yes—60.
3. Is your business of a Process character where one finished product becomes the raw material of another department? If so,
 - (a) Do you use Process Costs?
No—33. Yes—74.
 - (b) Do you work out the actual overhead or predetermine such?
Actual—53. Predetermined—63.
 - (c) Do you use Standard Costs as well as Actual?
No—47. Yes—53.
4. Was your Cost System developed within your own Organization, obtained from a Trade Association or similar body, or installed by others such as Auditors or Cost Specialists?
Own Organization—97. Trade Assn.—7. Auditors—15.
Cost Specialists—19.

Company.....

Address

Officer.....

COST ACCOUNTING PRACTICE IN CANADA

SUMMARY OF REPLIES

NUMBER

CHAPTER	Number Replies	1.				2.				3.				4.																					
		A	B	A	B	A	B	C	C	No	Yes	Act.	Pre.	No	Yes	Own	Trade	Organ-	Assoc-	Own	Trade	Organ-	Assoc-	Cost	Cost	Spe-	Audi-	Spe-	Audi-	Cost					
TORONTO.....49	9	20	10	16	11	25	12	25	9	26	17	21	10	23	33	4	3	6																	
MONTRÉAL.....43	7	20	13	11	14	14	14	14	5	22	15	12	11	17	30	1	5	3																	
HAMILTON.....26	11	8	8	8	10	11	10	8	9	9	10	11	10	4	13	1	3	5																	
WINNIPEG.....9	2	2	3	1	1	4	2	2	1	3	1	4	2	1	3	0	1	1																	
CENTRAL ONT.31	10	13	15	9	8	14	12	11	9	14	10	15	14	8	18	1	3	4																	
Total.....158	39	63	49	45	44	68	50	60	33	74	53	63	47	53	97	7	15	19																	
PERCENTAGES																																			
CHAPTER	Number Replies	1.				2.				3.				4.																					
		A	B	A	B	A	B	C	C	No	Yes	Act.	Pre.	No	Yes	Own	Trade	Organ-	Assoc-	Own	Trade	Organ-	Assoc-	Cost	Cost	Spe-	Audi-	Spe-	Audi-	Cost					
TORONTO.....49	31	69	38	62	31	69	32	68	26	74	45	55	30	70	71	9	7	13																	
MONTRÉAL.....43	26	74	54	46	50	50	50	50	19	81	55	45	39	61	77	3	13	7																	
HAMILTON.....26	58	42	50	50	48	52	56	44	50	50	48	52	72	28	59	5	14	22																	
WINNIPEG.....9	50	50	75	25	20	80	50	50	25	75	20	80	67	33	60	...	20	20																	
CENTRAL ONT.31	43	57	62	38	36	64	52	48	39	61	40	60	64	36	69	4	12	15																	
Total.....158	38	62	52	48	39	61	45	55	31	69	46	54	47	53	70	5	11	14																	

COST AND MANAGEMENT

Considerations on the Cost of Money

By RÉNÉ MORIN,

General Manager, Trust Général du Canada

(Before Montreal Chapter, December 5, 1929.)

I HAD the pleasure of attending the opening dinner of your activities for this season, where the guest of honor was the regretted Minister of Finance. Public men, those who have the responsibility of the administration of the country particularly, realize the close relationship between economics and politics. The late Honorable Mr. Robb appealed for your co-operation and for your suggestions in the solution of some of the economic problems with which he had to deal. He was aware of the importance of the work which is being performed in our economic life by the cost accountants of Canada and that no better qualified body of men could be found to give sound advice on such matters.

After such a testimonial, I was somewhat diffident to face the task assigned to me of addressing you on the cost of money. I felt that the subject was too broad, and I proceeded to restrict it to "considerations on the cost of money". As I went deeper into the matter, I found that the title should really have been prefaced by the words, "elementary and controversial". The causes which influence the cost of money are so varied and at times so conflicting that it is a perplexing problem to discern those which operate towards a rise from those which tend to reduce the money rates. Hence the matter is highly controversial.

A study of the problem entails a definition of money, a sketch of its functions, and a consideration of the principles which govern its fluctuations and of the facts which may have some bearing upon them.

If a referendum was to be held on what is the most popular thing in the world, money would almost be the unanimous choice, for in the popular mind it symbolizes wealth and all that it represents, that is to say, most of the material things. It is universally sought, but, however paradoxical it may appear, only to be parted with. It is not to be wondered at, the popular notion notwithstanding, money is not the embodiment of wealth, it is essentially a medium of exchange.

Origin of Money

From the early ages of civilization the idea of ownership grew in the mind of the individual, and it was naturally followed by a desire to exchange the goods which he held in excess of his needs for other goods which he wanted for his use or for his adornment. When plunder had become a precarious mode of acquisition, he resorted to barter, and he used for that purpose the articles which he could dispose of, his food, skins, pelts, cattle, weapons, tools, slaves,

CONSIDERATIONS ON THE COST OF MONEY

and in some cases, his wives. The process was cumbersome, particularly when in need of things of small value he only held important chattels as a horse or a bull, which were by nature indivisible. The general demand for ornaments, for which precious metals were then, as now, mainly used, resulted in these metals becoming quickly recognized as suitable media of exchange. It may seem a paradox that metals which did not satisfy pressing necessities should have been raised to a dominant position in our economic intercourse. But the paradox is more apparent than real, as the human being has no need of accumulating more food than he can consume, or more clothing than he can use, whilst vanity, ostentation and the desire of decoration have no limit of satiety for either man or woman. These precious metals possess, moreover, certain characteristics: durability, scarcity, transportability, malleability, recognizability, divisibility, which made them specially suitable to perform the functions of instruments of exchange.

The high value of gold and silver made it important, in those hand-to-hand transactions, to accurately determine the weight and the composition of the separate pieces and, to overcome this hindrance, coining and stamping were resorted to. As a high authority could alone secure for the coin the widespread and general acceptability which its function demanded, from a very early stage, minting was exercised by and reserved to the state. Originally the stamping merely defined the quantity of precious metal in each coin in a form certified by the state. Using its authority, the state was led to assign to coins a definite currency or a validity which took no account of the differences and changes in the fineness of the individual pieces. Money thus became an independent entity in law, the quantity of precious metal, which originally corresponded exactly to the unit of account of money, became a mere attribute of it, an attribute which could be fixed and altered at the free will of the government. By excluding from monetary functions all foreign elements, which were not subject to its influence, the state could, in practice, exercise an unfettered control over money. This control could not, however, exceed its territorial limits, and the abuse of this legal right was quickly defeated by the operation of economic laws, under which debased money lost its purchasing power and chased the good money out of the country, to the great detriment of international economic intercourse. The operation of those economic laws provided a cure for the abuse.

Pieces of gold or silver also lost their intrinsic value by abrasion, resulting from wear and tear, and, to overcome the inconvenience of this abrasion and of fraudulent debasement and the consequent depreciation of money, paper currency came to be issued by the state to represent the gold or the silver which it held, but the essential character of this paper currency was its constant convertibility into gold or silver. Attempts to issue inconvertible paper money, under the operation of the same laws, resulted in the depreciation of such currency and in its final abandonment. When such money can be used to pay government dues and taxes, it may preserve its value, provided the issue is strictly limited to the requirements of trade, but the ease with which such money can be issued renders its control practically impossible and inevitably leads to its depreciation.

COST AND MANAGEMENT

Chief Function of Money

The basic function of money, as we have seen, is to serve as an instrument of interpersonal economic intercourse. As such it is used, and these are its subfunctions: as a medium of exchange, as a medium of payment, as a medium of transfer of capital, and finally as a carrier of value through time and space. It is no longer looked upon as the embodiment of wealth; it serves certain definite economic purposes, and if it is not needed for the performance of these special functions, it is redundant. It has become a commodity, and as such it is loaned or borrowed for a price called the interest. As all other commodities, it is primarily subject to the basic economic law of supply and demand. We have, therefore, to examine what is the quantity of money available and what is the demand for it, as these factors are the main determining elements of the cost of money.

The student of our economic history is struck, at first, by the enormous development of the commercial or economic interrelations between individuals in modern times. Navigation, steam railways and other transportation facilities have enabled us to transfer, quickly and safely, immense quantities of goods from one point to another, without regard to the distance, and have given rise to an enormous increase in our commercial relations. Machinery, power developments, electricity, inventions, new methods of work have multiplied the productive capacity of man. Higher wages and education have raised his standard of living and developed his consuming power proportionately. This has resulted in numberless transactions involving the use of more and more media of exchange. The war, with its pressing demands upon governments for armaments, munitions, equipment, reparations, reconstructions and reorganizations, has added to the necessity for further instruments of exchange.

Modern finance has evolved new methods to facilitate the transfer of capital in all its forms by the issuing of bonds, debentures, stocks, all essentially negotiable instruments, dealings in which have increased the number and volume of our commercial transactions. The war loans made by the governments have mobilized part of the potential wealth of the country, and securities representing billions of dollars have been distributed amongst the population, and numerous transactions in these bonds are daily made.

Modern Currency

Under this era the tremendous increase in our business activities created a much greater need of currency than formerly and, accordingly, means had to be devised to increase the available supply. The mining of gold could not keep pace with these developments and the gold reserves became insufficient to perform the functions required of them. Gradually governments, either directly or through public or semi-public institutions, were led to issue paper money in excess of their gold reserves, money based partly on gold, partly on certain specific securities, and partly, in some cases, on the recognized or

CONSIDERATIONS ON THE COST OF MONEY

assumed ability of the issuing body to obtain gold for the conversion of such paper currency whenever needed. The supply of money had to be increased to meet the larger demand, but this could only be done with safety by preserving the convertibility of this fiduciary currency into gold. Under our modern methods of finance, the conversion of a large portion of this fiduciary currency could not be exacted and the conversion of the other need not be asked for, except to meet foreign obligations. People do not demand gold as long as they know they can get it if they want to. The gold standard, which had been temporarily abandoned during the war, was restored after the re-establishment of peace, as soon as the situation permitted it, but under different conditions. The increased fiduciary currency remained, to a large extent, in existence, as it could not be dispensed with in view of the much greater volume of the economic activities of the world.

We have an illustration of this change in our own currency. In 1913 our government paper currency amounted to 131 millions and was covered by 109 millions of gold, or to the extent of 83%, whilst at the end of 1928 it had increased to 221 millions and was covered by gold only up to 91 millions, or less than the reserve of 1913. The gold reserve has still decreased since then, but it is presumed that this is only a temporary period of gold scarcity, due partly to the loans made on the New York market and partly to the withholding of the wheat crop, and that this situation shall be remedied in the near future.

Under our present legislation and particularly since the war our legal gold reserve is rather low. The government is authorized to issue its notes up to 50 millions against a gold reserve of one-quarter of that amount. It was further authorized to issue additional notes for 26 millions against 16 millions of certain railway securities guaranteed by the state, which have since been assumed by it and no longer constitute any distinct guarantee. Additional notes may, moreover, be issued to the banks on the pledge of certain securities acceptable by the Treasury Board; such additional securities being a privileged charge upon the assets of the banks applying for same and bearing interest at the rate fixed by the Treasury Board. Further issues can only be made against gold. This limitation, as well as the fact that any part of the issue, under the Finance Act, exceeding the requirements of the trade is onerous to carry and returned to the state, preserves the value of this fiduciary currency.

Reserves for Note Issues

The money situation in Canada is not very much different from what it is in the other principal countries, except the United States. In Great Britain the gold reserve varies from 40 to 50% of the currency, in Germany it is in the neighborhood of 50%, and in France of 60%. War conditions attracted so much of the world gold reserves to the United States that this country can have an increased paper currency covered by 85% of gold.

COST AND MANAGEMENT

In addition to the Dominion currency, we have in Canada the bank currency. Banks are authorized to issue paper money up to an amount equal to their paid-up capital and, during certain months of the year, for an additional amount not exceeding 15% of their combined paid-up capital and reserve, upon payment of a tax at the rate of five per cent. This currency is a first charge on their assets, but it is not legal tender, although it is convertible, on demand, into Dominion currency. In 1928 the average bank notes circulation was 176 millions, it is now 196 millions, whilst in 1910 it was only 82 millions.

There is yet another so-called manufacture of money, and although of recent development, it is in some respects practically a reversion to the original system of bartering. It is the banking account. A bank account may be created either by the deposit of money or by an advance made by the bank to the client. In the latter case, the client who receives such an advance obligates himself to repay, but the value of his obligation rests mainly on the capital which he owns, and in return the bank gives him a credit against which he can draw to make his payments. The account so opened constitutes, in an indirect way, a mobilization of part of his assets, which he is thus able to use as an instrument of payment in lieu of currency. The advances which banks may thus make are limited to a certain proportion of their cash and liquid resources, but they constitute a substantial addition to the volume of instruments of exchange.

Money in its general sense means more than mere currency: it includes these bank deposits which are convertible into currency on demand and perform its functions. The total of the fiduciary currency in Canada amounts to approximately 400 millions, whilst the bank deposits exceed 2,200 millions; we can thereby judge of the importance of this addition to our money system. Part of the fiduciary currency is in the hands of the public and part is held by the banks; the difference between this latter amount and the total bank deposits represents mobilized capital originating partly from the savings of the people and partly from bank credits.

Savings are the principal source of new capital, and the rapidity at which they are being accumulated influences the money rates. Bank credits are only a secondary source, as the ability of banks to release credit depends upon their resources in cash and in quickly realizable assets, but their policy may affect the cost of money.

Factors In Cost of Money

Given a supply of loanable funds, their rental value will depend on the demand for them. The demand for currency must not be confused with the demand for money, which is really a demand for the use of the capital which money represents. The first has no bearing on the cost of money, whilst money rates are influenced by the demand for the use of the capital of others. The earliest views on the demand for money proper were to the effect that a certain equation must exist between the total amount of goods in a country and the

CONSIDERATIONS ON THE COST OF MONEY

total amount of currency. It was later realized that money is needed only in so far as goods are actually transferred at a given time, that the rapidity of the circulation of money has to be taken into account, and that numberless transactions are now made by means of cheques or credit entries without involving the use of money, whilst part of the currency must be kept at rest to be available for the purposes of possible payments which do not actually take place. The magnitude of the demand for money depends on the amount of the transfers to be made through the agency of money, but this demand only results in a movement of the money from the purchaser to the seller, without diminishing the volume of money available, and does not, therefore, affect the cost of money.

If this demand had any influence on the cost of money, the interest rates should presently be very high. Since 15 years the amount of currency has doubled. The equilibrium between the supply and the demand should have been preserved if during that period the volume of our business transactions had been doubled, but it has more than doubled. Bank clearings have passed from 8 billions in 1914 to 24 billions in 1928. These figures do not give a clear idea of the increase in our business activities, as they take no account of the transfers of funds through a single bank, and as during that period the number of our banks has diminished, the volume of transactions made within the same bank has increased, so that they do not convey an exact idea of the development of our economic activities. Since 1924, statistics on bank debits are available and during these four years they show, in the clearing house cities, an increase from 27 billions to 43 billions. Acceleration in the use of currency, more than its increase in quantity, must account for its ability to provide for our larger commercial activities.

The Demand for Capital

The demand for the use of the capital which money represents is either for purposes of consumption or for purposes of production. The demand by individuals for consumption purposes is not of sufficient importance to materially influence the cost of money, but the demand of the state or of the municipalities for public works or other purposes, and the demand of capital to create new enterprises or for production purposes affect the money rates, as in such cases the nature of the borrowed capital is changed. From loanable capital it becomes fixed or circulating capital.

Fixed capital, according to Seligman, comprises such things as can be used repeatedly for productive purposes without suffering much change; circulating capital consists of things, the simple use of which would convert them from the category of production goods into that of consumption goods. Such demand by public bodies or for production purposes affects the money rates, as it tends to exhaust the supply of loanable capital. The demand for the creation of new enterprises varies according to the general productivity of fixed capital. The exploitation of fixed capital yields a remuneration in the form of

COST AND MANAGEMENT

rent for the use of a definite piece of fixed capital, in the form of interest for the use of the capital of others, and as profits which are the share in the flow of capital which goes to the owners of the business. These three forms of income, which are designated under the general term of interest, have such a close relationship that the money rates are influenced by the general productivity of fixed capital and follow the trend of its earnings. Indirectly, the cost accountants, by disclosing the productive and the unproductive branches of activity and by directing human energies towards the most productive, must bear the responsibility of a slight contribution to a rise in the money rates.

Capital is wanted for new enterprises only when there is a prospect that they will give a better yield than the existing ones. When these can be purchased at prices which promise greater earnings than new ones, there is less demand for loanable capital, with a consequent reduction in money rates. When, on the other hand, money becomes cheaper, there is an incitement to use the capital which it represents to build up new enterprises, and this demand persists until the proper equilibrium between production and consumption is re-established.

Money rates have been recently affected by stock speculation. In the expectancy of their quick appreciation, stocks were purchased on margin on a large scale. They grew in value as the demand for them became greater. The carrying of these securities on margin at these inflated prices required an enormous amount of loanable funds, which could only be obtained at an increased cost. The pressure carried call money to excessive rates bearing no relation to the actual yield of the securities held or to their possible appreciation within a reasonable time, but it attracted an enormous volume of loanable funds from everywhere.

The effects of this situation were peculiar in many respects. Money rates were raised, but, profits being realized during this inflation, investments in stocks became popular and, by the issue of additional shares, at high prices, corporations were able to obtain money at extremely low rates to pay off their bonded debts or to redeem onerous preferred stocks, or for new capital expenditures. They thus secured cheap money when the cost of money was high.

Money is a fluid element, high interest rates coupled with security attract loanable funds, but when these funds come from foreign countries they are followed by a flow of gold. The demand for money in the New York market was acknowledged to have been the dominating influence in a tightness of credit which extended to most foreign lands, except perhaps France, and the rates of interest in these countries had to be increased to retain the fleeting gold or to attract it back.

The recession which followed in the New York market, for which the calling back of foreign capital induced to reintegrate its domicile by increased rates, may be partly responsible, released a considerable amount of these funds and brought easier money.

CONSIDERATIONS ON THE COST OF MONEY

Over-expansion of Credit

Experience has taught us that an over-expansion of credit leads to inflation and over-production, usually followed, as a reaction, by a period of deflation, and that, on the other hand, an excessive contraction of credit retards the normal progress of business. Bank credit is one of the sources of loanable funds and the volume of these funds depends in some measure on the banks' credit policy, but this policy is not wholly discretionary, as banks can release credit only when they have sufficient cash and liquid resources. To enable them to increase their cash and liquid resources and to release more credit, Federal Reserve banks were created in the United States a few years ago, and they were empowered to issue notes in exchange for certain categories of bonds and of discounted commercial paper, the sole limitation to their power being the maintenance of a 40% gold reserve. Whenever the need was felt, the banks were thus able to convert discounted bills or unliquid assets into cash and to release a greater volume of credit, increasing thereby the loanable funds available, which could thus continue to be obtained at a reasonable cost. The Federal Reserve banks, as do the national banks in most foreign countries, fix the rate of rediscount according to the then prevailing economic conditions, or according to their notion of these conditions, with a view to prevent inflation or deflation. Their policies are an important factor in the fluctuations of the money rates. The extent of this artificial control may be judged by the recent alterations of the rate of rediscount in the United States. In February, 1928, the rate of 3½% was raised to 4% and, as the economic activities increased, to 4½% in May and 5% in July. As comparatively cheap money was being turned over at a dangerous pace to the New York market for purposes of speculation, it was further raised to 6% in August, 1929, to be reduced, during the period of stock deflation, to 5% and subsequently to 4½%. They are also able to influence the money market by purchasing government bonds in times of money stringency and by putting them back on the market when money has a tendency to become too easy.

We have no distinct institution in Canada to perform all of these operations, but the rediscount of certain securities by the Government under the Finance Act enables our banks to increase their cash reserves and to release additional credit when there is a legitimate demand for same, an operation which may be reversed when the economic conditions call for it. It gives them a greater control over credit than they formerly possessed and the means of stabilizing in some measure the money rates. Our money system enjoys now on that account a flexibility which constitutes a marked progress over past conditions.

A loan is an exchange of present money for future money. If it is made when the price level of commodities varies, the rates of interest may be affected, as the loaned capital, with the earned interest, may have more or less purchasing power when repaid, according to whether the level prices of commodities shall then have decreased or increased.

COST AND MANAGEMENT

Factor of Risk in Loan

The risks must be taken into account in determining the rates of interest on a particular loan, and these rates vary with the degree of security and the probability of repayment. The risk does not affect the normal rate of interest; it merely causes a fluctuation from the normal rate. As a consequence, capital carries different rates of interest according to employment and according to the processes through which money is borrowed. Bonds, mortgages, debentures, notes carry different rates of interest following, in a general way, the normal rate in force when they are issued, but varying according to the degree of security offered.

The psychological factor has its influence. Borrowings carrying a bonus in common stock, or the right to purchase stock at a fixed price within a certain time limit, or a conversion privilege, or offering in some way a prospect of appreciation, have been found so attractive, when the public happened to be in a gambling frame of mind, that loans contracted in this way have been taken up at a substantially reduced rate of interest.

Confidence in the progress of business facilitates industrial and commercial developments which call for the use of more new capital and it thus has a tendency to raise the rental value of money. Uncertainty or fears, often unwarranted, may turn the tide in the opposite direction. The nature of a business, the earning record of a firm, the consideration enjoyed by its officers and directors, the reputation of its auditors and of the investment brokers through whom the securities are sold, all have a bearing on the interest rate at which such securities may be absorbed by the public.

A number of other factors may influence the rate of interest at which particular borrowings may be effected, but, generally speaking, and it is my conclusion, money is a commodity and, as such, it is subject to the general law of supply and demand, its cost varies in relation with the productivity of capital, with the development of new enterprises and the borrowings by public bodies, but it may be influenced by the extent of the savings of the people, by the credit policies of our banking institutions and by their appreciation of the economic activities of the country, and also in some measure by the conditions prevailing in other countries.

This outline of the modifications which have taken place in our money system shows the place which credit now occupies in our economic relations and the importance of the functions performed by the banks in the creation, distribution and control of this credit. The ingenuity of the human mind, through a clever application of the rules of the science of political economy, has been able to elaborate a money system adaptable to our tremendous commercial and industrial expansion, which has been a great factor in this development. The fact is so well acknowledged that there is to-day a greater demand than ever for the services of experts in accountancy, in economics and in management, and the improvements realized justify the hope that the general welfare and prosperity of mankind may be so enhanced that the ideal social conditions pictured by many writers who were looked upon as dreamers and utopians may, in a future which may not be so far distant, become a reality.

OFFICE MACHINERY IN A BANK

Office Machinery in a Bank

By ANGUS L. MACDONALD,

The Bank of Nova Scotia, Toronto

(Before Toronto Chapter, October 30, 1929)

IN our bank many economies have been brought about by the introduction of various appliances and where it was formerly considered necessary for a junior entering at the age of fifteen or sixteen to go through the whole grind of the routine, a great deal of this work is now done on machines by expert operators, and the time is made available for study of the broader aspects of the profession.

There is a difficulty, of course, in connection with the introduction of machines and that is the problem of the slack period. There are times when purely manual labor gets out of proportion from an expense standpoint and still there is not enough work to warrant the expenditure for a machine. I have no doubt that every Cost Accountant has run against that problem.

Another problem in connection with the machines is the rapidity with which they become out of date and obsolete. We have one or two notable cases where the most up-to-date machine for a particular purpose was ordered and before it was manufactured and delivered it was out of date through a new development.

Perhaps you would be interested in the practical end of the business and I shall, therefore, try to tell you something about the various machines which we use.

For many years we have used the Addressograph for preparing dividend warrants, as well as addressing envelopes and heading up customers' statements.

We sign certain cheques with the Multigraph and can do in 20 minutes what used to take the speaker four hours by hand on a busy day.

We use the Photostat for making copies of all kinds of documents, letters, reports and the like. It is more expensive than carbon copying by typewriter but in many cases is faster and it is accurate.

We use the Billing Machine for preparing collection and discount records and do in one operation what formerly took seven different handwritten records. You are all familiar with the current account statements for which the latest types of posting machines are used. Machines are used for making change in the teller's box and for counting bank notes; they are used also in the form of pneumatic tubes to replace page boys and messengers.

We have a Teletype installation which connects our Montreal, New York and Head offices and a telegram written in any one of these offices is immediately transmitted and typewritten in the office for which it is intended.

COST AND MANAGEMENT

Machines are used in place of towels to dry the hands.

In our dining room we have automatic potato-peelers and dish-washers. We have automatic ventilating and air-cleaning devices in the roof of our building, but perhaps one of the newest devices is the Recordak which will be used for photographing all sorts of cheques, balances, etc., at the rate of between 1700 to 2500 an hour, and the very latest thing that is being experimented with in our office is the Do-More chair. Our centralized stenographic department claim that they actually do more work with less fatigue.

We have a machine for savings accounts which posts the ledger, the passbook and daily journal at one operation, keeps separate totals of clearings, debit and credit balances and counts every transaction. Another device does all this for savings bank and as well posts the ordinary current account ledger, pass books or statements, keeps separate totals, counts, balances and then posts the control or general ledger at the end of the day.

The simple little machine which can be used on the desk instead of pins, called the Bostich, has saved more annoyance and "cussing" than a good many things. Everyone has had the experience of having important papers picked up by a paper clip attached to a group of papers and filed away and apparently irretrievably lost. The Bostich is a great friend of the speaker.

In our banking office we have a machine which stamps "paid" on cheques and endorses bills at the rate of 150 to 200 a minute. In our centralized mailing department we have machines that do everything but put the enclosures in envelopes. There is the lightning letter opener, the postal metre, sealing letters and putting the postage on them, and we have a machine that will fold letters for the envelopes.

Some people are mystified in my office to hear me, standing off ten or twelve feet, talking as if to myself, while as a matter of fact, I am speaking through the Dictograph to a distant part of the building, and there is still further interest when they hear a voice come back apparently from nowhere.

I do not use the Dictaphone myself, but I often see my assistant in a very earnest conversation, apparently with himself, but afterwards he hands me a nicely written letter for signature.

Machinery is the order of the day in offices and is revolutionizing them and developing a new technique and different type of office assistant. No matter how ingenious a machine is, however, unless the operator is intelligent good results will not be obtained. I am firmly of the opinion that while some people may claim that the introduction of machinery has the effect of reducing salaries, in our service we find that machine operators are paid as well, if not better than the ordinary bookkeeper, but we are able to get out a larger volume of work in less time and the former drudgery of end-of-the-month balancing, many evenings of work and late hours in the afternoon have, to a considerable extent, been ameliorated; and in many cases we have been able to divert clerks to other work.

OFFICE CONDITIONS AS AN AID TO EFFICIENCY

Office Conditions as an Aid to Efficiency

By E. L. B. HAMLIN,

The T. Eaton Company, Ltd., Toronto

(Before Toronto Chapter, October 30, 1929)

WHEN considering my topic "Working Conditions as an Aid to Efficiency," I tried to picture the worst condition that could possibly exist for any person in any office. We could then see how far these conditions have improved and derive fresh incentive for further improvements.

The example that came to my mind was the office described by Charles Dickens in his book the "Christmas Carol". If you have seen the play you will remember the office of "Scrooge and Marley." The room was cold, poorly lighted and poorly ventilated and you could see Bob Cratchett, the office staff, huddled up on the stool behind the high desk, with his scarf wound tightly around his neck, trying his best to make his numbed fingers do their work. The only other equipment in the office was the ledgers and the quill pens. The office manager was an unbearable, short sighted, miserable miser in the person of Scrooge himself. Surely with this scene before us, there can be no shadow of doubt, that working conditions play a tremendous part in the efficiency with which the office work is done.

Let us analyze the physical conditions first and it must be in a few words as our time is limited.

Lighting

Our buildings are now designed to furnish the maximum of daylight and the only point I will mention is the glass. I do not agree with pebble or frosted glass being used entirely, as it decreases the natural light and creates a confined atmosphere rather than the broader open air atmosphere.

It is a pity that the same thought is not given to artificial lighting that the architect gives to the daylight.

Poor lighting is the cause of many a headache and sore eyes. We cannot expect the best from any office help, affected by either one or the other. Lighting equipment has had a wonderful development since the days of old Scrooge's office, and lighting experts, when consulted, now advise what is best for each individual building.

There are three kinds of lighting systems, direct, indirect, and semi-direct. The direct system should never be used and if used, the lower part of the bulbs should be frosted. The indirect system, where all of the light is thrown to the ceiling to be reflected back, is better, but the semi-direct is probably to be preferred, where the shades are open at the top, throwing a certain amount of light to the ceiling and the lower part of the shades sufficiently transparent to allow a certain portion of light to penetrate downward. The ceilings should be white and the walls white or a very light shade, to the wainscoting. Office furniture should not have a high finish as this causes the light to be reflected. Glass top desks should never be used, and even the high polished oak desks cause nasty rays which hurt and bother the eyes,

COST AND MANAGEMENT

in the same way as a wet pavement does the motorist; and by the way, give the preference of light to the man now wearing glasses, as he is the man whose sight is already impaired and needs to be conserved if you are to get the best from him.

Ventilation

It is impossible to secure maximum results from an office force in a poorly ventilated office. A person working in a heavy, musty atmosphere becomes listless before the day is far advanced. His movements are sluggish. He loses the crisp wide awake attitude towards his work, that is found in a room full of fresh air. Ventilation systems should change the air every ten or fifteen minutes, but draught must be avoided as they are frequently the cause of sickness or indisposition that often keeps employees away from the office for days or weeks at a time. Smoking should not be allowed or should be confined to private offices. Partitions are a menace to ventilation and should be eliminated as far as possible. Many offices have done away with them altogether.

Heat

Many of our offices are overheated. Every office should be kept, as far as possible, at 68° F. Above this it has a slowing up effect on the staff and also tends to cause chills and colds when employees go out into the street or on the street cars.

Equipment

Labor saving devices when required should be of the best the office can afford, noiseless, quick and always kept in perfect condition. Desks should be uniform. The old high desk of Scrooge's office has practically disappeared. The roll top desk should follow it. In almost every case the pigeon holes become filled with an accumulation of truck which should be thrown away as it is only occupying valuable space. The dull finish flat top desk with drawers down each side is preferable, the centre drawer is objectionable as you always have to move back to open it, which is inconvenient and noisy. Considerable time is wasted in most offices through improper arrangements of the drawers. A good idea is to have a uniform plan for the use of the drawers in each desk. For instance the upper right hand drawer for unfinished work always, the lower right drawer for finished work, the upper left for indexes, filing, etc. and the lower left for personal use. Desks should be arranged so that the staff are all facing the one way with those in charge at the back. Where employees are facing each other, you are encouraging that never ending serial in daily editions, entitled "What happened last night." The work should travel from desk to desk in regular order without doubling back. The mail for instance should be opened at one end of the office and find its way in one direction through the credit department, purchasing department, planning department and on to the filing. In other words there should be no necessity for the staff to be continually moving about the office.

Now may we consider briefly the personal office conditions.

Hours

Hours should be regular with as little overtime as possible. Punctuality is important. There should be a definite time to begin work and a definite time to stop and both should be lived up to. When employees

OFFICE CONDITIONS AS AN AID TO EFFICIENCY

realize that certain work must be done by five o'clock if it is to be done that day, it is surprising what can be accomplished, and the employees have the right to expect to leave the office punctually, if you expect them to be there punctually.

The Work Itself

Care should be taken in arranging the work to see that each one has plenty to do. I don't know of anything that will spoil the efficiency of an office quicker than spare time. If every minute of the day is full it keeps the staff—all of the staff—concentrated on the work of the office and nothing else. We all know that the day goes quicker if we are busy and at the end of the day we have that feeling of having accomplished something.

Welfare

Under this heading we have Sick Benefits, visiting of the sick, Distress Cases and Vacations. The most important of these, as an aid to efficiency, is the vacation. We should stimulate the proper use of vacations. You know there are just as many people who do not play enough as there are those who play too much. Employees should come back from a vacation feeling healthier in body and mind, and more fit to carry on than they were before. In the office, the vacation gives an opportunity to examine the condition of each employee's work and frequently is the means of uncovering irregularities. That is one reason that banks are so insistent on holidays being taken. Then too it kills the idea in the mind of the employee that he is indispensable. He sees that the work goes on, and realizes that it would go on whether it is him that does it or some one else. When he realizes this, he is bound to be more particular with his work and make a constant effort to do it more efficiently.

Environment

The more I thought about this, the more I realized that the responsibility for the environment rested with the office manager. The biggest drawback to efficiency in Scrooge's office was Scrooge himself. The office manager makes his own selection for the various work and must have a knowledge of human strength, frailties and characteristics. He should understand the principles underlying the conduct of the manufacturing, sales, advertising, financial, credit, accounting and any other special departments, as he is responsible for the clerical detail of each and he must understand the relative importance of each. He must get the right help in the right place and keep them at top notch, willingly. He must possess the best characteristics, courtesy, enthusiasm, sympathy, decision, patience, a sense of fairness, tolerance and firmness. He must have a broad point of view and be able to sense the importance of details. He must have the power to direct others and the ability to maintain a harmonious spirit throughout the organization. Such an office manager, with proper light, heat, ventilation and equipment has the right to demand 100% efficient work from the staff and should demand it. Keep the standard of work high. The better work you demand from your staff the better work you will get. In closing, may I suggest a motto for the office manager, and one which we can all profit by adopting,

"Keep your temper until ten o'clock and the rest of the day will take care of itself."

Interest as an Item in Costs

SOMETHING like a year ago there appeared in *The Accountant*, of London, a number of contributions on the question of including interest in cost accounts. The discussion took the form of letters from various contributors, and, in the usual manner of the open forum, concluded with success to both sides.

As the question is one which has agitated many of our members at times, we reproduce two of the comments.

A letter by R. J. Carter:

Sir,—The whole controversy which rages over interest in cost accounts seems to arise through the combatants taking too narrow a view of the field of inquiry and so making implied assumptions which are different in the case of each course which is advocated. "T.R.J." has put his finger upon the crux of the whole question when he considers in his last paragraph the aspect "What is the purpose of cost accounts?" and divides that purpose into two broad classes: "Preparation of future estimates and works organisation, &c." I would carry the classification of his second purpose a step further and subdivide it into (a) comparison with records of other performances of the same functions (within the same undertaking and in other outside undertakings, where possible), and (b) analysis of each function into its component cost parts in order to provide for the individual scrutiny of those parts for possibilities of economy.

Dealing seriatim with the bearing of each of these three purposes of cost accounts upon the interest question:—

(1) *Preparation of future estimates.*—The object of this is to obtain a figure of cost to compare with the price to be obtained in order that the profit, if any, to be expected from undertaking the job may be ascertained. In my opinion the most useful figure of "cost" for this purpose is one which includes all charges against profits, including interest and quasi-interest in the form of cumulative preference dividends and also a reasonable margin of profit for the ultimate owner. This gives a figure which may be compared directly with the price obtainable and is built upon the assumption of a normal course of trading—trading without profits being, of course, abnormal. But this figure of "cost" should show separately how much is included therein for such items as profits and cumulative preference dividends so that it is possible to see at a glance how much can be given away in quoting and who will be the losers by it.

(2) *Comparison with other records of performance.*—In compiling a cost figure for this use the most important principle to be observed is the necessity of strict comparability of the two records. The constitution of the first record of cost should be followed exactly in compiling the second for comparison; or, alternatively, the first must be adjusted so as to be strictly homogeneous with the second. The

INTEREST AS AN ITEM IN COSTS

omission of the interest factor from both figures will not affect the validity of any inferences to be drawn from the comparison as then made, but it will operate to exclude from the information which can be obtained from the comparison anything bearing upon the relative efficiency of the financial organisation behind the productive activity in each case or any comparison between the capital charges involved in the two cases whose records are being compared.

(3) *Analysis of the productive function.*—If the analysis is to be comprehensive it must include all expenditure which is called into being by the exercise of the function of production. This includes interest upon the capital necessary to provide the tools, machinery, and wages of production, which should therefore be brought into the cost figure which is to be examined.

It will be noticed that the interest to be brought into account under (1) is that actually incurred by the undertaking, while that under (3) is only a normal rate on the capital actually used in the function being dealt with. Under (2) either type of interest may be brought in according to the purpose of the inquiry and comparison.

In considering the question of interest under these three headings of classified purposes of cost accounts it is assumed that those for whose guidance the costs are compiled require the maximum of information. But in every practical case the amount of information required is likely to be different, so that the purpose of the cost account which has been used as the guiding principle in these comments is always conditioned in its extent by this factor of the actual demand for information.

Yours faithfully,

R. J. CARTER.

A letter signed "Interested":

Sir,—The questions raised by your correspondent in the issue of 13th April regarding the inclusion of interest as a cost are ones which must of necessity be largely determined by the peculiar needs and requirements of the costing systems of each individual factory. For example, in the case of a manufacturing company operating several factories, some owned and others rented, it would be necessary to include interest upon the capital outlay to secure strictly comparative costs. I submit, however, that such interest adjustments should be made apart from the general cost accounts, as suggested by "T.R.J."

The following general points may be of interest to readers.

Firstly, it is necessary to place a definite interpretation upon the word "capital" on which interest is to be calculated. This may refer to:—

(1) Excess of assets over liabilities;

(2) Paid-up capital ignoring profit and loss account balance and reserves;

COST AND MANAGEMENT

- (3) Loan capital, e.g. debentures;
- (4) Value of *fixed* assets employed in production, e.g. buildings, plant and machinery, gear, &c.

Briefly stated, the procedure is as follows:—

(1) Interest on loans, whether in the form of debentures or bank overdrafts are actual expenses of the business, and must therefore be taken into account in ascertaining costs.

(2) Interest on preference shares, being at a fixed rate, should also be taken into account.

(3) Interest on ordinary shares, which fluctuate according to profits should be ignored.

Two important defects are at once apparent:—

(1) The primary virtue of a system of cost accounts, i.e. uniformity of treatment, which is necessary if reliable and accurate results are to be obtained, is lacking.

(2) The charge for interest in the cost accounts will in no way correspond with the charge for interest in the financial accounts. In fact, we may get the anomalous position of a business working at a loss and yet including interest upon assets represented by preference capital, as part of the cost of production.

Further the question of loan capital is solely one of domestic finance, and as such should not be included as an item in the cost of production. Particularly is this true to-day when, as "T.R.J." remarks, the price of an article is fixed in many cases not by the cost of production but by market conditions.

Secondly, the argument advanced in support of the inclusion of interest as a cost, on the grounds that the capital, if not employed in production would be earning interest elsewhere, becomes unsound, when it is realised that if the capital *was* earning interest elsewhere it would not be engaged in production. To any business which has built up a valuable goodwill through continuous successful trading, the return from capital employed in production would be much greater than the return from such capital if invested in gilt-edged securities, and would cover interest.

Thirdly, it is often advocated that interest on capital represented by production assets, i.e. plant and machinery, should be included as a cost, to the extent to which the assets were represented by capital bearing a fixed rate of interest, e.g. loan capital and preference share capital. On the face of it this argument sounds quite tenable, but when it is considered that most manufacturing companies are capitalised not merely by preference shares or debentures, but also by ordinary shares, the question of ascertaining the figure upon which interest must be calculated is of considerable difficulty.

Considering the following balance sheet, it will be seen how impossible it is to arrive at the amount of capital applied in production upon which interest is to be calculated—

INTEREST AS AN ITEM IN COSTS

	£
Ordinary Share Capital....	10,000
Debentures.....	5,000
	£15,000
Plant and Machinery—	£
From Share Issue	£4,000
" Deb.	4,000
	— 8,000
Stocks—	£
From Share Issue	1,000
" Deb.	500
	— 1,500
Cash in Hand.....	5,500
	£15,000

The amount of capital upon which interest is to be taken into account is £4,000, i.e. the amount invested in plant and machinery. It will, therefore, be appreciated that in practice, it is impossible to arrive at the amount of interest in such a case, where it is impracticable to earmark certain sums of money for specific assets.

As I said previously, the charge for interest in the cost accounts will not be capable of reconciliation with interest in the financial accounts, in particular due to:—

- (1) The fact that interest on ordinary shares is not determined until profits are known and is therefore incapable of future estimate;
- (2) The fact that certain production assets may have been purchased out of accumulated savings by means of a depreciation fund.

In conclusion, may I be permitted to quote from an American textbook as an illustration of what our brothers on the other side of the Atlantic think about this matter. The writer says:—"The discussion (referring to the controversial nature of the subject) is in large measure an attempt to reconcile economic definitions, and the custom among business men of including interest in estimates for future actions, with accounting methods and practices. Economic laws govern business activities, but it does not necessarily follow that business activities shall be recorded according to the options of economists. Business men conduct their activities to a large extent by forecasting the future, but it does not follow that the accounts must record past transactions in the same manner as they were computed in the forecast. Thus there is left room for differences of opinion which are irreconcilable, because they have no common meeting point." Continuing, he states:—"It is claimed that the inclusion of interest in cost serves a useful purpose in making comparisons, because, when the interest on the capital tied up in each of two alternative factors is considered in arriving at unit costs, there may be differences in the final cost which will favour one or the other factor. In opposition to this argument it is claimed that interest is not necessary in such comparisons, because, if the interest difference is sufficient to affect the results, there will be other differences, due to such fixed charges as taxes, insurance, and depreciation, sufficient to secure the same effect."

Yours faithfully,

INTERESTED.

COST AND MANAGEMENT

THE TREND OF PRODUCTION COSTS

THE duller tone of business in recent months has made itself felt in weakening prices for many commodities. From the viewpoint of the selling department, this means more difficult business and perhaps unsatisfactory margin of profit. From the viewpoint of production and costing, however, it means that some savings may be effected. It is by such means that the balance between demand and supply, and a fair return for business effort, are maintained or restored.

The Dominion Bureau of Statistics index number of commodity prices, which is a percentage of the 1926 level, stood at 95.6 for the end of January. This is about two points ahead of January, 1929, but slightly below December last. The following is a comparison:

	Jan. 1929	Dec. 1929	Jan. 1930
Foods, beverages and tobacco.....	96.9	103.3	104.5
Other consumers' goods.....	92.4	90.2	89.8
Consumers' goods, all.....	94.2	95.4	95.7
Producers' equipment	93.6	96.3	96.3
Building and construction materials.....	98.0	98.0	97.3
Manufacturers' materials.....	90.0	95.7	93.9
Producers' materials, all.....	91.4	96.1	94.5
Producers' goods, all.....	91.6	96.1	94.7
All commodities.....	93.7	96.2	95.6

Increases were shown in January for the following: vegetables, live stock, meats and poultry, salt, sand and gravel, fertilizers. The following showed important reductions: grains, dried fruits, vegetable oils, tea, coffee, cocoa and spices, fishery products, knit goods, flax, hemp and jute products, silver, tin and coal tar products.

There were four strikes and lockouts in Canada in January. None had been carried over from December, and two of the new ones were terminated, leaving two carried over to February.

SOCIETY'S LIBRARY ENLARGED

The central library of the Society has been enlarged, and completely indexed. Approximately 500 items are listed, consisting of books and magazine articles. These cover costing and related subjects, though there are a few publications along more general lines.

This enlargement is undertaken as a service to our members, and any publication may be borrowed for a period not exceeding two weeks. A considerable demand has developed among our members, particularly for information about cost systems for particular industries. While the available literature falls far short of covering the entire list of industries, the proportion covered is growing from year to year.

Many members have already found what they wanted through this service. It is hoped that during the year just started, the library can be made practically complete so far as recent literature is concerned.

CHAPTER NOTES

CHAPTER NOTES

MONTREAL

D. R. Patton, C.A., Secretary

February 6, 1930:—

PAINT and its elements, were crushed, corroded, converted, canned, compared and costed, by Mr. Percy Probyn, C.A., Chief Accountant of the Sherwin Williams Company Limited, at our meeting of February 6th.

Mr. Probyn, now a "Paint Man", is a familiar figure in athletic circles here, as well as in the accounting profession, where he is well known, both in his present capacity and as a former adherent of that element so disturbing to serenity, calm and contentment—the Auditor!

Mr. Probyn, in his capacity of Cost Accountant, believes that "No system of cost accounts is complete unless it enables the Manufacturing Department to detect loss and waste, and this function is just as important as finding the 'cost of the product'."

Mr. Probyn's paper "Costs in the Paint Industry", dealt first of all with the manufacturing processes and cost accounts of the principal ingredients of paint—(a) linseed oil and (b) white lead.

(a) Linseed Oil is manufactured through the crushing of "flax seed", obtained from Western Canada or the Argentine. The heated seed is first passed through rollers to break it up, through screens to rid it of impurities, and then through expellers to crush it and produce the oil. This oil is first cleaned by sediment and centrifugal machines, and is then passed several times through filter presses with alternate coolings.

The accounts take care of quantities as well as values, both for the seed used and the oil produced. Proper allowance is made for the by-products sold in the form of "cake" and "screenings." Reasonable profit, based on the market value at which oil might be sold, is added to the cost on transfer of the oil to the paint factory proper.

(b) White Lead is manufactured by the corrosion of metallic lead, obtained largely from British Columbia. The pig lead is melted, treated with live steam, and blown by it in very fine powder, to be collected in conveyors. This powder is loaded in 5,000 lb. cylinders. Carbon dioxide is injected and diluted acetic acid is sprinkled periodically; the sprinkling process is most important. It is performed by skilled workmen, and the result is reflected directly in the ultimate quality. The lead, now in lumps, is broken up and the same process is repeated. After passing through the various stages of cleaning, the lead goes either (a) to the drying room, to be packed as dry lead for transfer to the paint factory; or (b) to be mixed with oil, ground, and sold as "white lead."

COST AND MANAGEMENT

The cost of the various materials—lead, acetic acid, water, etc., used during the month are incorporated in the cost accounts, and the various burden charges—labour, machine and building repairs, superintendent's supplies, insurance, taxes, Workmen's Compensation, etc.—are properly distributed.

Paint production in itself, is comparatively straightforward. It consists generally of the mixing and grinding of the dry raw materials—white lead, zinc and dry colors—and the addition of and mixing with the liquid materials—linseed oil, liquid dryers and turpentine; the paste formed by preliminary mixing is carried to the grinding mills and remains there for a length of time directly proportionate to the quality of paint to be produced. From the grinders, the paint passes to the thinning tanks, and thence to the cans.

The cost procedure in the paint factory was taken up in detail. The "batch" of paint is the unit costed, and the speaker dealt with the routine followed, the forms used and the accounts kept, in arriving at the cost of such batch, both by the Direct and Unit Factor methods.

Mr. Probyn outlined the continuation of the process, so as to determine not only the cost of the paint manufactured and packaged, but also the cost of sales. Even here, he did not concede that the work of the Cost Accountant was finished, and advocated that he should be responsible for the preparation and interpretation of statements for the directors, which would show, not only the cost results, but the trend and operations of the business. He suggested that this Society should promote the extension of the field of the Cost Accountant to its widest limits. It might almost be said, in the words of his own company—that the Cost Accountant's field might "cover the earth."

February 20, 1930:—

Mr. J. E. Carruthers, of the Durant Motors of Canada Limited, coming up from Toronto to speak to us on automobiles, denied all claim of being "expert" in his line. Here, however, the Montreal Chapter failed to agree with him, for his paper "Automobile Budgeting and Cost Accounting", showed him up as a man for only keenly interested, but entirely familiar with automotive subjects.

Coming from the neighbouring province, which is in reality the particular home of the automobile industry in Canada, Mr. Carruthers outlined the large contribution made by Quebec and the other 'outside' provinces of the Dominion, as well as the benefit accruing to these sections from the industry and its products.

Speaking to Cost Accountants, whom he described as the "Superlatives of Accuracy," the speaker stressed the particular necessity of exactness in making up any useful budget. Taking an established industry, in which the selling department was functioning and the factory was capable of taking care of the proposed sales, he outlined the collection of data, tabulation, and the budget formation. He stressed the relations and regulations governing the distributing force. Reports received from dealers and distributors, and annual quotas specified in the contracts, form the basis of very reliable information used in the control of production.

CHAPTER NOTES

Mr. Carruthers stated the Financial Budget was made up from four viewpoints—

- (a) Pessimistic,
- (b) Average,
- (c) Optimistic,
- (d) Standard.

and is based on the revenue receivable from the estimated sales.

Factory costs and expenses of selling, and financing, are obtained on the basis of various production volumes, and estimates are set up as to the profits which should accrue.

The variation of the actual figures from the budget forecast, is relatively very small—almost surprisingly so to the laymen—but this attribute is the true essence of the success of a budget.

Mr. Carruthers has written since his return, that he enjoyed his visit to Montreal and his appearance before our Chapter. We might state that this feeling is most heartily reciprocated by the Montreal members, who were so fortunate as to be present.

HAMILTON

A. J. Mouncey, Secretary-Treasurer

The Hamilton Chapter was very fortunate in having as their subject "Equipment Cost and Maintenance". While through unavoidable reasons Mr. Hugh Johnston of the Sterling Appraisal Limited was unable to be present we all agreed that he sent a very worthy substitute, Mr. Allan McLean.

Mr. McLean let the members into the secret of appraisal, and how to avoid annoying and costly insurance adjustments. By means of charts his subject, which at first sight seemed rather a dry one, was made of great interest. From a cost standpoint it was demonstrated how fixed charges could be allotted on the basis of floor space and how machinery and equipment could be valued and depreciated. That ever interesting topic of obsolescence also came in for due consideration. On the whole Mr. McLean covered a great deal of ground, effectively, interestingly and with the ability of one who knows his subject.

Considering the season of the year the attendance was very fair. The proposal to change the name and scope of the Society was put before the meeting for their consideration. From opinions expressed it would appear that the Hamilton Chapter, at least, seem desirous of having the society remain as it is. However, time has been given for consideration and decision.

COST AND MANAGEMENT

TORONTO

H. J. McQuillan, Secretary

February 12, 1930:—

Mr. E. W. Carpenter, De Forest Crosley Radio Company, Mr. T. S. Jardine, United Drug Company, and Mr. W. M. Lane, Lever Brothers Limited, gave Toronto Chapter a valuable two hours on February the twelfth.

One of our members reported a rather interesting experience that harmonized with the meeting in an uncanny way.

"You know," said Mr. Brown (let us call him Mr. Brown), "that last seance of ours had more in it than appeared on the surface."

"I'll have you understand," broke in a third member of the group on the corner, "that the first pocket flask has yet to enter an assembly of ours."

"No, no!" replied Brown, "I mean something psychic, not plain kick. You fellows know how prejudiced I was against the radio and a few of my reasons. For years and years, unknown to myself, the wife had accumulated Surprise Soap wrappers by the thousands. I think she used to wash everything inside and out every day, just to see the wrapper stock grow. A few weeks ago, I discovered the extent of the horde, and immediately called a meeting of the board. We discussed the possibilities of cashing in on the wrapper stock, and how. Well, the oldest daughter suggested a radio, but I put my foot down, and we had practically declared a foot-warmer trump on the evening of February 11. On the evening of February 12, as you gentlemen know, I was at the Board of Trade, and my every objection to radio received a death-blow. How could any musical instrument possibly have a defect, or how could the ideals and ideas back of the instrument be wrong with such precise organization, and accurate budgeting of every detail. Thursday morning we all took a half day, and went to see Mr. Lane. We all watched him carefully while he counted the wrappers, and made out a credit on the radio company. Our footsteps were not hesitant as we drew near to Mr. Carpenter's office. In a few minutes we carried away a brand new radio, with just a nominal lien against it, which we could discharge 'just any time you wish,' to use the sales-manager's words.

"One of the most impressive presentations was through a warning voice, which told how easy it is to catch cold. Do you know that half way through this broadcast, our eyes were watering, the cat was sneezing, and I felt that old pain in my back again. We shut off the machine while Abner telephoned Mr. Jardine. He was fortunately at his office, fixing the overhead to something or other, or removing the fluctuations. So two of the boys took the baby-carriage down to 68 Broadview, and Mr. Jardine gave them the best assortment of cough mixtures you ever tasted, at dealer's prices. Conclude now that they couldn't deliver the case quickly enough. Now the peculiar co-incidence in the whole affair was that the boys stopped under the arc light at Queen St., and each had a bottle of 'Stop-Sneeze.'

CHAPTER NOTES

"At the exact time (we checked this up later), we tuned in on Inspiration, New Mexico. Now record this, the Inspiration announcer could sure make the 'mike' mighty.

"'Shut your eyes,' he said, 'and visualize the kind of man you want to be. Do not let any vagrant thoughts intrude on this mind picture. Are you tired, ill or discouraged? Picture now the positive personality, vitally vibrant with physical and mental health. Remember it is all in the mind—the mind rules all.'

"'Well, mother, shut off the speaker right there.' 'Now children, you concentrate on what the man says, and stop sniffling; and you too Amos,' said she, turning to myself.

"Before another ten minutes had elapsed Mr. Jardine exchanged the cough medicine for spring tonic and Lifebuoy Soap."

February 24, 1930:—

One Wednesday evening not so long ago, a youth appeared. He had been listening with evident pleasure and satisfaction to Mr. J. W. Spence, Canadian Kodak Company; Mr. G. C. Reynolds, Colgate-Palmolive Company; Mr. T. G. Dalglash, C.A., Canadian National Exhibition, and Mr. C. H. Pellin, C.A., Messrs. Clarkson, Gordon, Dilworth, Guifoyle and Nash. The youth, wearing the badge C.S.C.A., was waiting for the green light at Queen Street. To avoid needless confusion, let the youth tell his own story.

"Waiting for the green light grew wearisome, and while I nodded, nearly napping, suddenly there came a tapping, as of some one gently rapping, slapping as in days of yore.

"'Sir,' said I, 'or madam, truly your forgiveness I implore. But the fact is I was napping.'

"'Let me tell you of Len Orr,' said this man, and then some more.

"'Our Boss was feared, imports were cleared, wearily did we flop the books around and scrape the ground about the Chief's roll-top.'

The stranger tells how the business moved along under favourable conditions 'till it reached the end of its credit.

"And now the Banker came, and he was tyrannous and strong. He struck the desk with clenched hand, and said 'You all are wrong. A cost accountant's what you want, a man right to the core, whom difficulties do not daunt. This man, sirs, is Len Orr.'

"And so did cross this man of cost, and on our heels did follow, and every day for work or pay, came to the Manager's hollo.

"Now save thee, total stranger from the fiends that plague thee thus!—Why looks thou so?" "Cause of Bedaux, I shot the Man of Cost." "Wretch," I cried, "the Banker sent thee as a prophet or penepete to this firm for evermore. But the Tempter or the tempest sent thee to Ontario's shore," quoth the stranger, "Nevermore."

"Your name, dear sir, I do forget." "I do not think I've told you yet." "I should not then expect to know." "Tis Samuel Taylor Cole-ridge-Edgar Allen Poe."

COST AND MANAGEMENT

COST LITERATURE

RECEIVED IN FEBRUARY.

SYSTEM and Their Uses. Bass Dawson. A series of nine articles published in Canadian Office, concluding with the February issue.

Does Competition Fix Prices? A. A. Hadden, Society of Industrial Engineers, January, 1930.

Is there a Problem of Unemployment in the United States? H. F. Porter. Society of Industrial Engineers, January, 1930.

Influence of Physical Surroundings on Office Work. L. R. Goodwin. Society of Industrial Engineers, January, 1930.

Accounting for Fully Depreciated Assets. J. C. Cassel. National Association of Cost Accountants, February 1, 1930.

Accounting Problems in the Wood-working Industry. A. O. Harding. National Association of Cost Accountants, February 1, 1930.

Advantages and Disadvantages of Industrial Combinations. Dwight Farnum. Certified Public Accountant, February, 1930.

Depreciation of Wasting Assets and its Annual Measurement. P. D. Lea Leake, F.C.A. The Accountant, January 25, 1930.

Use of Graphics in Cost Accountancy. T. Gerald Rose. The Cost Accountant, January, 1930.

Depreciation of Fixed and Wasting Assets. Wm. Bell, A.C.W.A. The Cost Accountant, January, 1930.

Textile Costs. Major John Ryan. The Cost Accountant, January, 1930.

NEW BOOKS

INDUSTRIAL Accounting, by Thomas H. Sanders, M. Com., Ph.D., professor of accounting, graduate School of Business Administration, Harvard University. McGraw-Hill Book Co. Inc., 370 7th Avenue, New York.

The sub-title of this book is "Control of Industry Through Costs". The book is an up-to-date statement of the fundamentals of cost or industrial accounting. In respect to detail on costing it is not extensive. It aims rather to show the relation, in the modern well-conducted business, of the cost work to other departments. Thus budgeting is discussed in one chapter, while another deals with summarizing the costs. The use of machines in cost work is also given a chapter.

The book aim opens with "cost accounting and financial control" and the broader and more fundamental points are brought out all the way through. Of course materials, labor, overhead, etc., are taken up chapter by chapter, also depreciation, maintenance and the plant ledgers.

The author expresses his belief in the value of "case" material for illustrations, and uses several. He also uses 63 forms. Special chapters on cost accounting for banks and cost activities of trade and professional associations are worthy of mention. Professor Sanders uses the term "industrial" in preference to "cost" accounting, because of its broader significance, though he points out that many use the term cost accounting with the same meaning.

